

ABSTRACT OF DISCLOSURE

The present inventions overcomes a drawback that although it is necessary to increase frequency of a reference clock to perform the measurement of output frequency of a resonant pressure sensor speedily with high resolution, the increase of frequency gives rise to an increase of the power consumption and hence, the use of a two-wire differential pressure/pressure transmitter is difficult. A time difference signal having a pulse width corresponding to the time difference between an output of a resonant pressure sensor and a reference clock is prepared. The pulse width of the time difference signal is expanded by a given magnification. Based on a count value obtained by counting the reference clock during the expanded pulse width and a count value obtained by counting the reference clock during one cycle of the output of the resonant pressure sensor or a period which is integer times as long as the one cycle, the output frequency of the resonant pressure sensor is obtained. It is possible to obtain the fast processing and the high resolution without increasing the frequency of the reference clock.